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| 10/661,177 | 09/12/2003 | Steven Carl Crusius | 79287 | 8291 |

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EXAMINER

AMRANY, ADI

| | |
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| ART UNIT | PAPER NUMBER |
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2836

DATE MAILED: 04/07/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

| | | | |
|------------------------------|--------------------------------------|---------------------------------------|--|
| Office Action Summary | Application No. 10/661,177 | Applicant(s) CRUSIUS ET AL. | |
| | Examiner Adi Amrany | Art Unit 2836 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 12 September 2003.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-9 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-9 is/are rejected.
- 7) ☒ Claim(s) 1-9 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 06 February 2004 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) * | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date <u>12/22/03, 11/25/05</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Drawings

1. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(4) because reference character "21" has been used to designate both conductive path and conductor. The conductor that connects diode 27 and resistor 29 with plus 32 should be labeled "conductor 31." Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Specification

2. The disclosure is objected to because of the following informalities:
- a. Page 3, lines 3-9; it is unclear how the power supply 17 creates a 28-volt DC charge across conductors 23 and 25. Applicants' disclosed battery backup apparatus does not include the power supply 17, which is understood to be a preexisting structure within the barrier movement operator 11.

- b. Page 4, line 9; the verb "opposes" refers to a singular subject (diode 43), and thus should contain an "s."
 - c. Page 5, line 3; the correct numeral reference for the battery charger and control is 41, to be consistent with the drawings.
 - d. Page 6, line 22; the correct reference numeral for the charging and control circuit is "41." 39 has been designated for the battery backup unit.
 - e. Page 7, lines 4-5; "battery should appear before, and a "41" should appear after "charge and control circuit."
 - f. Page 7, line 9; microcontroller should be replaced with "microprocessor 51."
 - g. Page 8, line 10; a "95" should appear after buzzer.
- Appropriate correction is required.

Claim Objections

3. Claims 1-9 are objected to because of the following informalities: Claim 1 recites the limitation of a "first input port" (line 10). Claim 1 previously established a first *backup* port. Appropriate correction is required.

Claims 2-9 are objected to because they depend on claim 1.

With respect to claim 3, "an" should be inserted before the second instance of "apparatus" on line 1.

4. Claim 5 is objected to because the current limiting circuitry is not properly disclosed in the specification (page 4, lines 11-20). The specification discloses that the

current limiting circuitry is comprised of a resistor 29 and diode 27, where the resistor 29 can limit the current supplied to the battery to 600ma. The current limiting circuitry, however, is contained within the barrier movement operator 11 (figure 1). Applicants do not disclose how the circuitry is installed in the operator 11, which is a preexisting device that is not claimed in the present application. The present application is related to a battery backup arrangement which is to be used with barrier movement operators that are well known (page 2, lines 15-18).

Claim Objections

5. Claims 1 is objected to because there is no written description in the specification to support the recited limitation that “a battery charging circuit connecting the first *backup* port to the first battery terminal for charging the battery when the *input DC voltage exceeds a predetermined value*.”

The battery charge and control 41 contains a *microprocessor 51* that can detect when “the sensed battery voltage achieves a predetermined level” during charging of the battery (page 7, lines 5-11). The specification also discloses that the microprocessor 51 can detect a fault within the battery by “excessive charging current or battery voltage above a predetermined threshold” (page 7, lines 13-15). Lastly, the specification discloses a “voltage dropping threshold” and a “low battery threshold” (page 8, lines 12-17), which are compared against the voltage level of the battery to “protect the batteries from over discharge.”

There is no written description within the specification that discloses that the battery charge and control does not charge the battery until the input DC voltage exceeds a predetermined voltage. The disclosed threshold levels only compare to the voltage levels of the battery, not the input DC voltage. Peplinski (US 2003/0063715) discloses a battery notification circuit that compares the voltage level of the battery to a threshold to warn the user of a low power level (page 5, paragraph 49).

Claim 6 is unclear and indefinite. The specification discloses that the battery backup apparatus receives its power from the barrier movement operator. The mains voltage is received by the barrier movement operator and passed through an AC/DC converter. The specification, however, does not provide a description of how the voltage is split after the converter to provide power for both the barrier motor and the backup battery. There is no description of a maximum current the barrier movement operator (here it is assumed that applicants are referring to the AC/DC converter contained within the operator) is expected to draw from the mains power supply.

For the purposes of the art rejection of claim 6, the claim will be treated as though the current limiting circuitry is not dependent on the barrier movement operator.

Claim Rejections - 35 USC § 102

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the

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applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

7. Claims 1-3, and 5-8 are rejected under 35 U.S.C. 102(e) as being anticipated by Peplinski (US 2003/0063715).

With respect to claim 1, Peplinski discloses a battery backup apparatus (figure 2; page 2, paragraph 23) for use with a barrier movement operator (figure 2, item 106; page 2, paragraph 19), comprising:

- a battery having a first and second terminals (figure 6b, item B1; page 4, paragraph 36);

- first and second backup ports (figure 6a, item 204; page 4, paragraph 41) for receiving an input DC voltage from the barrier movement operator therebetween during normal operations by the barrier movement operator;

- a conduction path (figures 6a/6b, electrical ground) connecting the second back up port to the second battery terminal;

- a battery charging circuit (figure 6a, item 210; page 4, paragraphs 39 and 42-44) connecting the first *backup* port to the first battery terminal for charging the battery *when the input DC voltage exceeds a predetermined voltage*;

- and a unidirectional isolation device (figure 6a, item D1; page 4, paragraph 42, lines 3-5) connecting the first battery terminal to the first backup port.

Peplinski discloses the battery as item B1, but the battery is not properly labeled in figure 6b. Battery B1 is located in the top-center portion of the figure, between switches S1 and S2 and voltage divider 214.

The Peplinski back-up battery apparatus comprises an AC/DC converter that is shared by the barrier operator and the back-up battery circuitry. The AC/DC converter DC output powers the barrier and recharges the battery. The unidirectional isolation device disclosed D1 disclosed in Peplinski is designed to redirect any backfeeding voltage from the battery around the battery charge and control circuit to protect the circuitry. Upon failure of the AC input, the batteries provide DC power for the barrier.

It is inherent in the Peplinski apparatus that the rectifier 204 comprises two outputs; Vdc and Ground, which provide a first and second backup port, respectively.

Further, the limitation recited in claim 1 that the battery is only charged when the input DC voltage exceeds a predetermined voltage has not been considered since there is no basis for such a limitation in the specification, as discussed above.

With respect to claim 2, Peplinski discloses the battery backup apparatus of claim 1, and further discloses an audible signaling device (figure 2, item 180; page 3, paragraph 24).

With respect to claim 3, Peplinski discloses the battery backup apparatus of claim 2, and further discloses an apparatus (page 3, paragraph 25-26) for enabling the audible signaling device in response to current flowing from the battery.

With respect to claim 5, Peplinski discloses the battery backup apparatus of claim 1, and further discloses the battery charging device comprises circuitry for limiting a current applied to the first battery terminal (figure 6a, item R1; page 4, paragraph 44).

With respect to claim 6, Peplinski discloses the battery backup apparatus of claim 5, and further discloses the circuitry for limiting, limits the current to an amount less than a maximum amount expected from the barrier movement operator (page 4, paragraph 44, lines 1-2). Peplinski discloses that the current limiting circuitry has a threshold of 380mA. The specification does not disclose any current characteristics of the barrier movement operator, as discussed above. Therefor, it is interpreted that 380mA is an amount less than the maximum amount expected from the operator.

With respect to claim 7, Peplinski discloses the battery backup apparatus of claim 1, and further cut out circuitry (figure 6b, items K1, K2, S1 and S2; page 4, paragraphs 37 and 38) for disconnecting the first battery terminal from the unidirectional device.

With respect to claim 8, Peplinski discloses the battery backup apparatus of claim 1, and further discloses cutout circuitry (figure 6b, items K1-4, S1 and S2; page 4, paragraph 38) for disconnecting the first battery terminal from the battery charging device.

The switches (S1 and S2) disclosed in Peplinski disconnect the battery from both the unidirectional device (D1) and the battery charging device (item 210).

Claim Rejections - 35 USC § 103

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

9. Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Peplinski.

Peplinski discloses the battery backup apparatus of claim 1, as discussed above, and further discloses one or more visual signaling devices (page 3, paragraphs 32-33).

Peplinski discloses that the battery backup apparatus can connect to the Internet and transmit a fax message to inform the user of system conditions. Claim 4 does not specifically claim that the visual signaling devices are related to any fault conditions within the apparatus.

10. Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over Peplinski, in view of Furst (US 5,844,328).

With respect to claim 9, Peplinski discloses the battery back up apparatus of claim 1. Peplinski discloses that the processor 100 monitors the conditions of the battery backups to detect component faults. It would be obvious to a person skilled in the art that the processor could detect a short circuit across the battery back up and charging circuit 200 and disconnect the battery.

Peplinski does not expressly disclose circuitry for selectively disconnecting the first battery terminal from the first backup port when the first backup port is disconnected from the input DC voltage.

Furst discloses a backup battery apparatus comprising a switch 72 that allows the backup battery 12 to be disconnected from the load 20 at any time desired by the user (figure 1, items 72; column 6, lines 53-64). It would be obvious to a person skilled in the art to disconnect the battery from the load when the backup port is disconnected from the input DC voltage, for example, in order to prevent a short circuit or when the user wants to change the battery (column 6, lines 60-64).

Peplinski and Furst are analogous because they are from the same field of endeavor, namely battery backup apparatuses that recharge during normal operation and discharge the voltage to a load when the main power source fails.

At the time of the invention by applicant, it would have been obvious to combine the battery backup apparatus disclosed in Peplinski with the cutout switch disclosed in Furst.

The motivation for doing so would have been to disconnect the battery to prevent any current discharge when the battery backup apparatus is not connected to a power source.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Adi Amrany whose telephone number is (571) 272-0415. The examiner can normally be reached on weekdays, from 9am-5pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Brian Sircus can be reached on (571) 272-2058. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

A handwritten signature in black ink, appearing to read 'Phuong T. Vu', with a long horizontal flourish extending to the right.

PHUONG T. VU
PRIMARY EXAMINER